



IN THE COURT OF CHANCERY OF THE STATE OF DELAWARE

PARTNER INVESTMENTS, L.P., a)	
Delaware limited partnership,)	
PFM HEALTHCARE MASTER FUND,)	
L.P., A Cayman Islands limited)	
partnership, and)	C.A. No. 12816-VCL
PFM HEALTHCARE PRINCIPALS)	
FUND, L.P., a Delaware limited)	
partnership,)	
)	
Plaintiffs,)	
)	
v.)	
)	
THERANOS, INC., a Delaware)	
corporation, ELIZABETH HOLMES,)	
an individual, and RAMESH BALWANI,)	
an individual, and DOES 1-10)	
)	
Defendants.)	

**DEFENDANT THERANOS, INC.'S RESPONSES AND
OBJECTIONS TO PLAINTIFFS' SECOND SET OF INTERROGATORIES**

Pursuant to Court of Chancery Rules 26 and 33, Defendant Theranos, Inc. (“Theranos” or the “Company”) hereby submits the following responses and objections to Plaintiffs’ Second Set of Interrogatories (each an “Interrogatory” and, collectively, the “Interrogatories”) as follows:

REQUEST NO. 64: IDENTIFY ANY commercially available machine, equipment, or technology that YOU modified for use to process blood tests on CAPILLARY BLOOD SAMPLES or MICRO-SAMPLES, including without limitation machines, equipment, and/or technology manufactured by SIEMENS. For each machine, equipment, and/or technology so identified:

- (a) DESCRIBE ANY modification(s) YOU made, the intended purpose(s) of such modification(s), STATE whether YOU consider ANY Such modification(s) proprietary, and STATE whether THERANOS filed an application for and/or received a patent for any such modification(s);
- (b) IDENTIFY the THERANOS employee(s) and/or former employee(s) who authorized, participated in, and/or had knowledge of ANY such modification(s);
- (c) STATE the date range(s) during which THERANOS used the machine, equipment, and/or technology to process blood tests for commercial testing center patients, and IDENTIFY the THERANOS employee(s) and/or former employee(s) who authorized, participated in, and/or had knowledge of such use;
- (d) IDENTIFY which blood test(s) THERANOS ran on the machine, equipment, and/or technology, as well as the time period during which each such test was run on the machine, equipment, and or/technology; and
- (e) DESCRIBE ANY analyses, empirical studies, testing, and/or other validation of the machine, equipment, and/or technology, whether performed by YOU or by third parties, or proposed or offered to YOU by third parties, and IDENTIFY the THERANOS employee(s) and/or former employee(s) who authorized, participated in, and/or had knowledge of such analyses, studies, testing, and/or other validation.

RESPONSE TO INTERROGATORY NO 64:

Theranos objects to the phrase “modified for use to process blood tests” as vague and ambiguous, and incorporates by reference the General Objections set forth above.

Subject to and without waiving its specific and General Objections, Theranos states that Theranos modified the Siemens ADVIA 1800 analyzer, the BD Biosciences LSR Fortessa and BD Biosciences FACSCanto II flow cytometers, and the Drew Scientific Drew-3 Hematology System to process certain of its General Chemistry, ELISA, and Cytometry blood tests on capillary samples or micro-samples of blood:

(a) **Modifications to Siemens ADVIA 1800.** Theranos designed and manufactured a proprietary sample cup for use with the Siemens ADVIA 1800 analyzer to reduce the dead volume of the analyzer’s standard sample cup. The reduced dead volume allowed Theranos to reduce the sample volume required to perform each assay, relative to the requirement of the standard sample cup. Theranos also modified the software protocols of the Siemens ADVIA 1800, including by modifying the volumes of diluent and reagent added at various steps of each assay protocol for small-volume venous samples and collected using Theranos’ proprietary Nanotainer and sample collection devices. Theranos

considers all of these modifications to the Siemens ADVIA 1800 to be proprietary to Theranos.

Modifications to Devices Used for Complete Blood Count. Theranos performed its Complete Blood Count panel using novel and proprietary immunolabeling chemistries and methodology, rather than standard chemistries, on the BD Biosciences LSR Fortessa and BD Biosciences FACSCanto II flow cytometers for small-volume venous samples and samples collected using Theranos' proprietary Nanotainer and sample collection devices. Theranos combined its proprietary immunolabeling approach on these flow cytometers with assay protocols on the Drew Scientific Drew-3 Hematology System ("Drew-3") to generate a Complete Blood Count panel with a full five-part white blood cell differential, beyond the three-part differential generated by the Drew-3 without modification.

Theranos has filed patent applications relating to the above-described modifications.

(b) Theranos incorporates by reference the General Objections set forth above. Theranos specifically objects to the term "had knowledge of" in part (b) of this Interrogatory as overbroad, as it potentially calls for identification of a large number of individuals.

Subject to and without waiving the foregoing specific objections and General Objections, Theranos states that it is currently aware that the following document custodians have or may have participated in modification of devices or technology, as described in the response to part (a) of this Interrogatory:

Name	Title	Description of Role	Present Contact Information
Sunny Balwani	President and Chief Operating Officer (Former)	Mr. Balwani was involved in the implementation of modifications to the Siemens ADVIA 1800.	Available through counsel
Xinwei Sam Gong	Senior Scientist, Computational Biosciences; Machine Learning Lead	Dr. Gong is a member of the Computational Biosciences team and was involved with designing and implementing modifications to the software of the Siemens ADVIA 1800.	Available through counsel
Chinmay Pangarkar	Vice President, Assay Systems	Dr. Pangarkar led the Cytometry team and was involved with the implementation of modifications to the BD Biosciences LSR Fortessa, BD Biosciences FACSCanto II, and Drew Scientific Drew-3 Hematology System, and with validation and verification of the Complete Blood Count panel on those devices.	Available through counsel
Paul Patel	Director, Assay Development (Former)	Dr. Patel led the General Chemistry team and was involved with the implementation of modifications to the Siemens ADVIA 1800 and validation of assays on the modified Siemens ADVIA 1800.	Available through counsel
Adam Rosendorff	Laboratory Director (Former)	Dr. Rosendorff was involved with data processing connected with modifications to the Siemens ADVIA 1800 and with validation and verification of assays on the modified Siemens ADVIA 1800, BD Biosciences LSR Fortessa, BD Biosciences FACSCanto II, and Drew Scientific Drew-3 Hematology System.	

Name	Title	Description of Role	Present Contact Information
Daniel Young	Vice President, Theranos Systems and Computational Biosciences	Dr. Young leads the Computational Biosciences team and was involved with the review of data connected with modifications to the Siemens ADVIA 1800 and validation of assays on the modified Siemens ADVIA 1800.	Available through counsel

(c) Theranos incorporates by reference the General Objections set forth above. Theranos specifically objects to the term “had knowledge of” in part (c) of this Interrogatory as overbroad, as it calls for identification of a large number of individuals.

Subject to and without waiving the foregoing objections and General Objections, Theranos states that it used the following instruments, modified as described in the response to part (a) of this Interrogatory, to process blood tests for commercial testing center patients during the following approximate date ranges:

1. Siemens ADVA 1800: October 13, 2013 to September 21, 2015;
2. BD Biosciences LSR Fortessa: October 11, 2013 to September 21, 2015;
3. BD Biosciences FACSCanto II: June 26, 2014 to September 21, 2015;
4. Drew Scientific Drew-3 Hematology System: July 30, 2014 to September 21, 2015.

By way of further response, Theranos states that it is currently aware that the document custodians identified in response to part (b) of this Interrogatory have or

may have participated in use of the modified instruments listed above to process blood tests for commercial testing center patients.

(d) Theranos states that the following blood tests were available to be run on modified Siemens ADVIA 1800 analyzers, in the approximate time frames indicated below:

1. Acetaminophen (available January 24, 2014 to March 29, 2015)
2. Alanine Aminotransferase (available October 13, 2013 to September 21, 2015)
3. Albumin (available October 13, 2013 to September 21, 2015)
4. Alkaline Phosphatase (available October 13, 2013 to September 21, 2015)
5. Alpha-1 Acid Glycoprotein (available November 7, 2013 to September 21, 2015)
6. Amylase (available March 9, 2014 to March 29, 2015)
7. Anti-Streptolysin O (available March 25, 2014 to February 2, 2015)
8. Apolipoprotein A1 (available June 10, 2014 to February 2, 2015)
9. Apolipoprotein B (available June 10, 2014 to February 2, 2015)
10. Aspartate Transaminase (available October 13, 2013 to September 21, 2015)
11. Beta-2 Microglobulin (available March 25, 2014 to February 3, 2015)

12. Bicarbonate (available October 13, 2013 to September 21, 2015)
13. Blood Urea Nitrogen (available October 13, 2013 to September 21, 2015)
14. Calcium (available October 13, 2013 to September 21, 2015)
15. Chloride (available October 13, 2013 to September 21, 2015)
16. Cholinesterase (available January 28, 2014 to March 29, 2015)
17. Complement Component 3 Antigen (available March 25, 2014 to January 28, 2015)
18. Complement Component 4 Antigen (available March 25, 2014 to January 28, 2015)
19. Creatine Kinase (available October 13, 2013 to April 13, 2015)
20. Creatinine (available October 13, 2013 to September 21, 2015)
21. Cystatin C (available March 25, 2014 to January 31, 2015)
22. Direct Bilirubin (available October 13, 2013 to March 29, 2015)
23. Ethanol (available November 22, 2013 to March 29, 2015)
24. Ferritin (available March 25, 2014 to September 21, 2015)
25. Gamma-Glutamyltransferase (available April 2, 2014 to March 30, 2015)
26. Glucose (available October 13, 2013 to September 21, 2015)

27. High Density Lipoprotein (available October 13, 2013 to September 21, 2015)
28. High-Sensitivity C-Reactive Protein (available December 8, 2013 to September 21, 2015)
29. Immunoglobulin A (available March 25, 2014 to February 4, 2015)
30. Immunoglobulin G (available May 10, 2014 to February 4, 2015)
31. Immunoglobulin M (available March 25, 2014 to February 4, 2015)
32. Inorganic Phosphorous (available February 15, 2014 to September 21, 2015)
33. Lactate (available August 27, 2014 to March 28, 2015)
34. Lactate Dehydrogenase (available April 12, 2014 to March 28, 2015)
35. Lipase (available March 9, 2014 to August 19, 2015)
36. Lithium (available December 13, 2013 to March 29, 2015)
37. Low Density Lipoprotein (available October 13, 2013 to September 21, 2015)
38. Magnesium (available February 20, 2014 to September 21, 2015)
39. Potassium (available October 13, 2013 to September 21, 2015)
40. Prealbumin (available May 8, 2014 to February 4, 2015)
41. Salicylate (available January 27, 2014 to March 29, 2015)
42. Sodium (available October 13, 2013 to September 21, 2015)

- 43. Total Bilirubin (available October 13, 2013 to September 21, 2015)
- 44. Total Cholesterol (available October 13, 2013 to September 21, 2015)
- 45. Total Iron (available December 17, 2013 to September 21, 2015)
- 46. Total Iron Binding Capacity (available February 13, 2014 to September 21, 2015)
- 47. Total Protein (available October 13, 2013 to September 21, 2015)
- 48. Triglycerides (available October 13, 2013 to September 21, 2015)
- 49. Uric Acid (available November 12, 2013 to September 21, 2015)

By way of further response, Theranos states that the BD Biosciences LSR Fortessa flow cytometer, the BD Biosciences FACSCanto II flow cytometer, and the Drew Scientific Drew-3 Hematology System were used to process the Complete Blood Count test panel during the respective approximate time frames listed in Theranos' response to part (c) of this Interrogatory.

(e) Theranos incorporates by reference the General Objections set forth above. Theranos specifically objects to part (e) of this Interrogatory on the grounds that it is overbroad and unduly burdensome, and that it is better addressed by a document production.

Subject to and without waiving the foregoing objections and the General Objections and pursuant to Court of Chancery Rule 33(d), Theranos refers Plaintiffs to business records produced in this action from which the answer to part

(e) of this Interrogatory may be derived or ascertained and which are located at THPFM0005697045–THPFM0005697515; THPFM0005697597–THPFM0005697681; THPFM0005697905–THPFM0005698212; THPFM0005698811–THPFM0005699202; THPFM0005699836–THPFM0005700093; THPFM0005700096–THPFM0005700419; THPFM0005700421–THPFM0005700803; THPFM0005700805–THPFM0005701164; THPFM0005701175–THPFM0005701656; THPFM0005701658–THPFM0005702246; THPFM0005702250–THPFM0005702396; THPFM0005702400–THPFM0005702852; THPFM0005703984–THPFM0005704244; THPFM0005704280–THPFM0005704380; THPFM0005704384–THPFM0005704649.

REQUEST NO. 65: STATE whether YOU diluted or otherwise prepared ANY blood sample(s) for use with commercially available machine(s), equipment, or technology(ies), whether modified or not, used to perform blood tests for commercial testing center patients. For each dilution or other preparation identified:

- (a) IDENTIFY the blood test(s) in connection with which the dilution or preparation was performed;
- (b) STATE the time period during which you diluted or otherwise prepared such blood samples;
- (c) DESCRIBE such dilution or other preparation;
- (d) IDENTIFY the THERANOS employee(s) and/or former employee(s) who authorized, participated in, and/or had knowledge of ANY such dilution or other preparation;

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*Attorneys for Defendant Theranos,
Inc.*

DATED: January 30, 2017

/s/ Catherine G. Dearlove
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(302) 651-7700

*Attorneys for Defendants Theranos,
Inc.*

STATE OF CALIFORNIA

SS:

COUNTY OF SANTA CLARA

I, Brad Arington, declare:

1. I am currently Chief Regulatory Counsel of Theranos, Inc. and am authorized to make this affidavit on its behalf.
2. I have read the foregoing Defendant Theranos, Inc.'s Responses and Objections to Plaintiffs' Second Set of Interrogatories, and I know the contents thereof. Certain matters set forth therein are not within my personal knowledge.
3. Said responses and objections were prepared with the assistance of counsel for Theranos, Inc., upon whom I have relied. The responses set forth therein, subject to inadvertent and undiscovered errors, are based on and necessarily limited by information presently recollected and thus far discovered in the course of preparation of these responses. Consequently, I reserve the right to make changes in these responses if it appears at any time that omissions or errors have been made therein or that more accurate information becomes available. Subject to the limitations as set forth herein, said responses are true to the best of my knowledge, information, and belief.
4. I declare under penalty of perjury and pursuant to the laws of the United States and the State of California that the foregoing is true and correct.

Dated this 30th day of January, 2017

Brad Arington
Brad Arington

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Sworn to and subscribed before me this 30th day of January, 2017.

Tiffany M. L. Chase
Notary Public
My Commission Expires: 12/21/2019




STATE OF CALIFORNIA
COUNTY OF SANTA CLARA

:
: SS:
:

I, Jeffrey Blickman, declare:

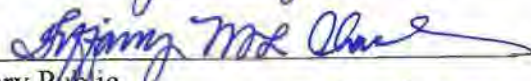
1. I am currently Director, Business Analytics of Theranos, Inc. and am authorized to make this affidavit on its behalf.
2. I have read the foregoing Defendant Theranos, Inc.'s Responses and Objections to Plaintiffs' Second Set of Interrogatories, and I know the contents thereof. Certain matters set forth therein are not within my personal knowledge.
3. Said responses and objections were prepared with the assistance of counsel for Theranos, Inc., upon whom I have relied. The responses set forth therein, subject to inadvertent and undiscovered errors, are based on and necessarily limited by information presently recollected and thus far discovered in the course of preparation of these responses. Consequently, I reserve the right to make changes in these responses if it appears at any time that omissions or errors have been made therein or that more accurate information becomes available. Subject to the limitations as set forth herein, said responses are true to the best of my knowledge, information, and belief.
4. I declare under penalty of perjury and pursuant to the laws of the United States and the State of California that the foregoing is true and correct.

Dated this 30 day of January, 2017


Jeffrey Blickman

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Sworn to and subscribed before me this 30th day of January, 2017.


Notary Public
My Commission Expires: 12/21/2019



STATE OF CALIFORNIA
COUNTY OF SANTA CLARA

:
: SS:
:

I, Max Fosque, declare:

1. I am currently Senior Software Product Manager of Theranos, Inc. and am authorized to make this affidavit on its behalf.
2. I have read the foregoing Defendant Theranos, Inc.'s Responses and Objections to Plaintiffs' Second Set of Interrogatories, and I know the contents thereof. Certain matters set forth therein are not within my personal knowledge.
3. Said responses and objections were prepared with the assistance of counsel for Theranos, Inc., upon whom I have relied. The responses set forth therein, subject to inadvertent and undiscovered errors, are based on and necessarily limited by information presently recollected and thus far discovered in the course of preparation of these responses. Consequently, I reserve the right to make changes in these responses if it appears at any time that omissions or errors have been made therein or that more accurate information becomes available. Subject to the limitations as set forth herein, said responses are true to the best of my knowledge, information, and belief.
4. I declare under penalty of perjury and pursuant to the laws of the United States and the State of California that the foregoing is true and correct.

Dated this 30 day of January, 2017


Max Fosque

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Sworn to and subscribed before me this 30th day of January, 2017.


Notary Public

My Commission Expires: 12/21/2019



STATE OF CALIFORNIA

: SS:

COUNTY OF SANTA CLARA

I, Christian Holmes, declare:

1. I am currently Senior Director of Commercial Operations of Theranos, Inc. and am authorized to make this affidavit on its behalf.
2. I have read the foregoing Defendant Theranos, Inc.'s Responses and Objections to Plaintiffs' Second Set of Interrogatories, and I know the contents thereof. Certain matters set forth therein are not within my personal knowledge.
3. Said responses and objections were prepared with the assistance of counsel for Theranos, Inc., upon whom I have relied. The responses set forth therein, subject to inadvertent and undiscovered errors, are based on and necessarily limited by information presently recollected and thus far discovered in the course of preparation of these responses. Consequently, I reserve the right to make changes in these responses if it appears at any time that omissions or errors have been made therein or that more accurate information becomes available. Subject to the limitations as set forth herein, said responses are true to the best of my knowledge, information, and belief.
4. I declare under penalty of perjury and pursuant to the laws of the United States and the State of California that the foregoing is true and correct.

Dated this 30 day of January, 2017

Christian Holmes
Christian Holmes

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Sworn to and subscribed before me this 30th day of January, 2017.

Tiffany M. L. Chase
Notary Public
My Commission Expires: 12/21/2019

STATE OF CALIFORNIA :
 : SS:
COUNTY OF SANTA CLARA :

I, Daniel Young, declare:

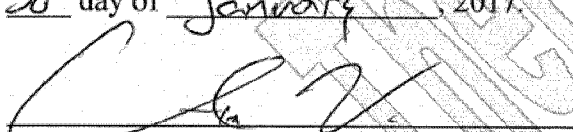
1. I am currently Vice President, Theranos Systems and Computational Biosciences of Theranos, Inc. and am authorized to make this affidavit on its behalf.
2. I have read the foregoing Defendant Theranos, Inc.'s Responses and Objections to Plaintiffs' Second Set of Interrogatories, and I know the contents thereof. Certain matters set forth therein are not within my personal knowledge.
3. Said responses and objections were prepared with the assistance of counsel for Theranos, Inc., upon whom I have relied. The responses set forth therein, subject to inadvertent and undiscovered errors, are based on and necessarily limited by information presently recollected and thus far discovered in the course of preparation of these responses. Consequently, I reserve the right to make changes in these responses if it appears at any time that omissions or errors have been made therein or that more accurate information becomes available. Subject to the limitations as set forth herein, said responses are true to the best of my knowledge, information, and belief.
4. I declare under penalty of perjury and pursuant to the laws of the United States and the State of California that the foregoing is true and correct.

Dated this 30 day of January, 2017

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.


Daniel Young

Sworn to and subscribed before me this
30 day of January, 2017.


Notary Public

My Commission Expires: 02/07/2018

